The Journal

OF THE

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BOARD OF MANAGEMENT.

THE usual monthly meeting of the Board of Management of the Jamaica Agricultural Society was held at the office of the Society, 82 Hanover Street, Kingston, on Thursday, 24th October, 1907, at 11.40 a.m. Present: His Excellency Sir Sydney Olivier, K.C.M.G., presiding; the Hons. L. G. Bertram, W. Fawcett, R. P. Simmonds, H. T. Ronaldson, Messrs. D. Campbell, R. Craig, and the Secretary, John Barclay.

Apologies for absence were submitted from Mr. J. R. Williams, Mr. E. W. Muirhead, and Hon. Geo. McGrath.

Minutes. The minutes of the previous meeting, published in the current JOURNAL, were taken as read, and confirmed.

The following matters, arising out of the minutes, were considered:—

West India Agricultural Conference. The Secretary said that he had seen in the newspapers that the idea of holding the next West India Agricultural Conference in Jamaica had to be abandoned, but he had no communication from the Colonial Secretary's Office on the subject.

The Governor said that this omission to advise the Secretary on the subject must have been through an oversight, and he went on to explain the position, and what had been done.

The Board agreed that, under the circumstances, it was best to let the matter drop this year.

Mr. Campbell asked what then was being done about the holding of Kendal show, which the promoters had agreed to hold during the time of the Conference.

The Secretary said that the Kendal Show Committee now proposed to hold their show in March.

White Scale. The Secretary read a minute showing what was being done at Shaw Park, Dr. Pringle's property, near Ocho Rios, to fight the white scale. This was directed to be published in the JOURNAL with the remarks of the members.

Special Grant for Work in St. Elizabeth

The Secretary read letter he had sent to the Governor, as the matter was an urgent one, asking for a special grant to provide a further supply of seeds and plants for St. Elizabeth, as follows:—"I find from reports received, not only from Mr. Palache, but other dependable correspondents in St. Elizabeth, that if I could send on a further supply of corn, beans, and potato slips, especially to the Nain district, it would be most helpful, and, further, on an expenditure of about £10, it would enable Mr. Palache to get a hold of the people, and form local societies or district committees in connection with established branches, which, under the present conditions, it is very difficult to do. I think a small expenditure to this extent, at the present juncture, would probably be worth hundreds of pounds to the Island by enabling the Instructor to get into touch with the people.

"2. I may say that Mr. Palache applied for a grant of £10 from the St. Elizabeth Parochial Board for a supply of seeds and plants, which the Chairman, Mr. J. M. Farquharson, said, no doubt, would be put through. On the strength of this, Mr. Palache bought £6 5s. 6d. worth of beans and seed corn. The Board, however, did not listen to the Chairman's representation. It will be a pity if Mr. Palache has to sell these seeds to recoup himself.

"3. I have asked the Prison Farm if they can let me have a further supply of potato slips to send on to Williamsfield, where Mr. Palache will see them taken right through to St. Elizabeth. If there was a small amount available, in addition to the people coming with their own donkeys for supplies, it would enable more trouble to be taken in the distribution."

The Secretary said this amount was in addition to the £10 already granted, and administered by him, for seeds and plants for St. Elizabeth, and the £10 for carrying through an experiment ground in St. Elizabeth. His Excellency had minuted that Mr. Palache had called upon him, and he thought it worth while that he should be able to spend a sufficient time in St. Elizabeth for the purpose named, but he could not do this unless special provision was made for his travelling expenses, £5, for a fortnight extra. If the Board were not able to find this amount, it would be made good from the general revenue or other ways.

After discussion the Board made a grant of £10 to cover the cost of the further supplies of seeds and plants, on condition that Mr. Palache gave full reports as to how he was proceeding, and submitted the estimates of the cost of running the experiment to the finish. They deferred the matter of the special grant for travelling expenses until this statement was submitted at the next meeting.

Mr. Craig moved, seconded by Mr. Campbell, that no money be allocated or promised, except with the express sanction of the Board at a meeting. This was agreed to.

Cotton Industry.

The Secretary said that, having visited places in St. Andrew and the country, where cotton was being grown, he was glad to report that, after all the trouble about

the seeds, the plants were growing in good fashion. There were several instances where the St. Vincent seed sent out had grown well, so that they would be able to make a good comparison, after all, between the results from imported and native seed. He said that Mr. Briscoe, Agricultural Instructor, and himself had taken a corner of the Parade Gardens and planted some of the St. Vincent seed, which had been sweated, and about which he had reported that a proportion of one-third germinated. They had planted eight seeds to the hole, and so secured a good stand, and the plants were growing in a most favourable way.

Rat Virus. The Secretary said that, in this connection, the Government had authorised the Island Chemist to carry through experiments with a view of producing a local rat virus, suitable to our conditions, and which it was hoped to produce at a low cost. Mr. Craig said that he had again tried the preparation, called "Ratin," but it had not the effect with him that was claimed by the proprietors, and it seemed quite useless.

Report Live Stock Committee.

Duty on Stock Imported. The Secretary said he had circulated the papers, in connection with this matter, on the 20th September, and as they had not been returned, he had written to the members of the Committee to find out where they had been detained, and he had only that morning found out that the papers were with Mr. Fursdon. He had called a meeting of the Committee for the previous afternoon, but only Mr. Craig attended. It was necessary to settle the matter of the bulls, and the premiums at this meeting. The papers had only gone through three members of the Committee. The following motion was put to the meeting: "The members of the Live Stock Committee, as a whole, have considered the individual opinions of the members of the Committee, to whom was referred the correspondence of the Society with the Government in the matter of the application for the withdrawal of the import duty on live stock, recommended for the approval of the Government, that *stock* (pure-bred animals, horses, cattle, sheep, pigs) imported for breeding purposes from Great Britain, British possessions, United States of America, and India, be admitted into the Island free of duty, and that persons importing such stock be required to make oath to that effect, to distinguish between animals imported for breeding purposes, and those imported for other purposes."

The Secretary was instructed to forward this resolution to the Government.

New Stations for Bulls and Stallions. After discussion it was decided to place the King's bull, "Desmond," with Mr. J. V. Calder at Worthy Park for the next season; that the King's Hereford bull, "Sylvester," be removed from Knockalva to Mr. Kenneth Roxburgh, Annandale, St. Ann; to transfer the red Shorthorn bull, "Henbury Beau," from Mr. A. M. Lewis, Brumalia, Mandeville, to Mr. R. P. Rerrie, Montego Bay, and the roan Short-

horn bull, "Henbury Favourite," from Mr. R. L. Young, Tobolski, for three months, to Mr. G. S. Ewen, at Weston Favell, Trelawny, and then afterwards to Dr. Dewar, Stewart Castle, Trelawny, for the following three months, all under the usual conditions.

Premiums on Imported Stock.

On the recommendation of the Secretary, who had inspected the animals on their arrival to the country, and, again, after their being, at least, six months in the Island, the premiums of £10 were awarded to:—

(1) A. C. L. Martin's Lincolnshire red Shorthorn.
(2) G. W. Fitzherbert's South Devon bull.
(3) C. A. Nunes' South Devon bull.

And to the following boars:—

Dr. Todd, Black River, Essex boar.
S. S. Stedman, Buff Bay, Poland China boar.
D. Marchalleck, Morant Bay, Poland China boar.

In the matter of the premiums on goats, the Secretary said that the Trustees of the late Trelawny Agricultural Society had lodged a deposit, and had been anxious for him to import a pair of milch breeds of goats as soon as possible. Other Branch Societies had been also corresponding on the subject, and he had taken the opportunity to bring three pairs. The other Branch Societies had not, however, come forward yet, and these goats were now in hand, and the rams had been standing for service. If the Society did not care to take them over he would do so himself, and claim the premiums.

One premium was awarded to the rams imported for the Trelawny Agricultural Society, and as the Board did not care for the Society to own any more live stock, the Secretary was asked to take them over, and to credit the premiums on them.

The following letters from the Colonial Secretary's Office were read:—

Appointment of Representatives on the Board of Agriculture.

No. 9691-11381. 4th October, 1907.

I am directed by the Governor to inform you that His Excellency has, on the nomination of the Board of Management of the Jamaica Agricultural Society, appointed Messrs. E. W. Muirhead and D. Campbell to be the representatives of that Society on the Board of Agriculture.

Letter from F. Dazy & Co. re Fibres.

Enclosing letter from F. Dazy & Co., 20 Paper Street, London, *re* Fibres, and reply.

The Secretary was instructed to make a suitable abstract from the enclosure, and publish in the JOURNAL.

Tobacco Exhibition in London.

Re Tobacco Exhibition in London (No. 9438-11214, 27th September, 1907), enclosing letter from E. S. Caton, Monument Station Buildings, London, calling attention to a Tobacco International Exhibition, to be held in London, in March, 1908, when awards will be made for the tobacco leaf grown in the colonies.

Half-yearly General Meeting.

The Secretary said arrangements would now have to be made for the holding of the half-yearly general meeting, according to rules. It was

resolved to hold it on Thursday, 21st November, after the usual monthly meeting of the Board at 12.30.

Secretary's Visit in St. Ann and Trelawny. The Secretary submitted a report of his visit to St. Ann and Trelawny to inspect the work of the Agricultural Instructor, Mr. Arnett. This was directed to be published.

Economic Woods. The Secretary said this was a letter referred by Mr. R. J. Miller, Christiana. Owing to the demand for native lumber for building purposes that gentleman had begun dealing in it, and found that he would be required to pay a license of £5, as required by the Protection Law of 1903. Mr. Miller had asked the Government to exclude lumber for building from the list of economic woods under the Law, and this had been done.

Instructors' Reports. The Secretary submitted the Instructors' Reports and Itineraries, which he said he had carefully read and checked.

Affiliations. The following applications for affiliation by local Agricultural Societies formed were submitted :—

(*a*) Letitz and Nain.
(*b*) Giddy Hall.
(*c*) Stewart Town.

The rules governing the affiliation of Branches having been fulfilled, affiliation was granted.

Making of Roads. Mr. Craig gave notice that, at the next meeting of the Board, he would move the following resolution :—"That, in the opinion of the Agricultural Society, the time has arrived when the making and maintenance of the roads of the Island should be operated on more modern methods, including the use of steam road-rollers, with a view to greater efficiency, and ultimate economy."

New Members. The following new members were elected :—Leicester Carvalho, Old Harbour ; George Patterson, St. Andrew, Grenada ; Allan T. Lang, St. Andrew, Grenada ; Rev. W. Morrison, Maidstone P.O.

Adjournment. The meeting adjourned to Thursday, the 21st November, at 11.45 a.m.

SHIPPING ORANGES.

In connection with the minutes of the meeting of the Board of Management for September, the whole of the following matter was unfortunately omitted :—

Reports by the Harbour Master for Kingston on his inspection of the fruit accommodation on the steamers Port Antonio, Port Kingston, and Port Henderson, prior to their departure from Jamaica for Bristol, were submitted.

The Harbour Master stated that he found that the fruit accommodation on board the vessels complied with the terms of their contract.

Mr. McGrath said he wished to bring to the notice of the Board a communication which he had received from the general agent in Jamaica of the Elder, Dempster Company. Similar communications, he understood, having been sent to other shippers in the island. The letter was dated August 10th, and read thus:

"Dear Sir,—I herewith enclose list of sailings of the Direct Line steamers, and shall be glad if you will let me know, by return post, if possible, what quantities of case fruit you would wish to ship by each steamer from 29th inst. (August) till say 2nd January. I am directed to inform you that whatever space is allotted must be filled by shipper, or dead freight thereon will have to be paid, and I have to ask that you will send me cheque in payment of the freight on whatever quantities are to be shipped, when shipping instructions are sent in.

"I await to hear what shipments you propose to make, after which I shall seek to inform you what space can be allotted.

"E. A. H. HAGGART, General Agent for Jamaica."

Mr. McGrath said he instructed his manager to reply to that letter as follows:—

"Dear Sir,—I am directed by Mr. McGrath to acknowledge the receipt of your memorandum of the 10th, and to ascertain if it is to be regarded as a general circular memorandum to all exporters of fruit by the Imperial Direct Service.

"I am to point out that, owing to the recent drought, it would be impossible to estimate at the present time what quantity of fruit Mr. McGrath would wish to ship each steamer, commencing from the 29th inst. till the 2nd of January.

"I am further to observe that, in any case, Mr. McGrath thinks it would be highly inconvenient to state at this stage—so far ahead—the specific quantity for shipment, for should it become unprofitable to ship fruit, owing to the state of the English market, the unfortunate position would be intensified by having to pay dead freight on fruit that could not prove remunerative if shipped.

"Hitherto the practice which obtained, namely, to arrange space immediately after the departure of a steamer in the next—a fortnight in advance—seemed to have proved satisfactory to both sides.

"Mr. McGrath hopes that this restriction will be modified, seeing that it is not imposed by other lines of steamers, and it may be considered out of place to mention to you that fruit shipped during the last season to America averaged 4d. per box more than shipments to England."

Mr. McGrath, continuing, said: The last letter he had received from the general agent of the Elder, Dempster Company stated that he would refer the points raised in the correspondence to the head office in England.

It was agreed that the correspondence read by Mr. McGrath should be handed over to the Secretary so that he might report the matter to the Government to look up the records to see what had been done on this point of the contract.

[The Secretary had an interview with the agent of the Direct Line when he was assured that the objectionable and impossible request for notice of shipment, so far in advance, had been withdrawn. The payment of freight in advance, however, on space engaged and allotted, whether filled or not, is insisted on. That is, if a shipper writes to engage space for 600 boxes, and the total amount of space asked for by intending shippers is more than the ship's capacity, each shipper will be allotted space *pro rata*, and will be asked, at the same time, for payment of such space hired. The bill of lading will not be issued until payment of freight is made, the agent undertaking to forward the bills of lading.]

REPORT OF THE SECRETARY ON HIS VISIT TO ST. ANN AND TRELAWNY.

I HAVE the honour to report to the Board of Management that, in company with Mr. Arnett, the Society's Agricultural Instructor for St. Ann, Trelawny, and Eastern St. James, I visited parts of these parishes, beginning on Monday, September 30th, and finishing Saturday, October 12th. I held meetings at Stewart Town, where a local Agricultural Society was established, and a small cotton growing association was formed, so as to make a combined effort to get cotton grown in the vicinity by small settlers. At Westwood College, I addressed the pupils on poultry at the request of the principal, and showed a practical exposition in handling fowls in disease; at Deeside, by request, on the jippi-jappa hat industry, and the work of Branch Societies; at Hampden on the same subject; and at Goodwill on the purposes and uses of Agricultural Societies, and I think a good sub-branch of the Hampden Society will be formed there. I visited most of the school gardens en route, and have brought the attention of the Board of Agriculture to various matters which seemed to retard their progress. At the request of various managers of school gardens, and teachers, I found a good many of the useful school gardens I used to know had dropped out, in spite of efforts being made to establish more. This is nearly all on account of the fencing. Formerly the teachers ran these gardens as they pleased, and made profit out of them, and were always willing to carry out experiments for the Agricultural Instructors, and give effect to their suggestions. Now they are required by the code to fence efficiently to keep out all kinds of live stock. They are required to submit a model of their gardens to the Education Department, and have what they propose to plant approved of. The gardens have thus become experiment grounds, and will, undoubtedly, in this way, be most useful. but it is not reasonable, I think, to require teachers to pay the capital expenditure themselves, that is, fencing, planting crops required by the Educational Department (approved of by the Director of Public Gardens), and of which they cannot expect to make profit themselves. In only a few cases, I understand, are grants awarded to school gardens. Personally, I say it has taken too long, and too much work, to raise the interest in agriculture that exists now, and to have raised some enthusiasm among teachers in agricultural work, and not to try and remedy any grievance they may have in connection with agricultural work, I hardly think any of us here would be inclined to carry through what teachers are asked to do, *i. e.*, to lay out a model garden, fence it. and grow crops according to ideas set down for them, and from which they cannot hope to make the expenses, unless they happen to earn a grant. I bring forward this matter in the hope that the Agricultural Society may use whatever influence it may have in the direction of getting at least the preliminary expenses of school gardens paid for. We are interested in this, because the managers of school gardens are often presidents of agricultural societies, and secretaries or of truth who run the school gardens. The Instructors have initiated most of them, and, at present, direct them. Teachers are always willing to carry through experiments for the Instructors. Many of them have cotton plots in their gardens, and the Society has supplied seeds and plants free to school gardens. So we are interested in the matter of the success of school gardens.

Mr. Arnett is doing very good work in St. Ann and Trelawny. He distinctly encouraged thrift in starting penny banks in connection with Deeside, Gibraltar, and Pedro districts, and the success of the Deeside Agricultural Society, in this connection, since it started, has been really most noteworthy, for there has been over £200 lodged in the bank by this small and poor-looking district in two years. It is most gratifying now

to have brought before me at some of the meetings that Mr. Arnett does not come often enough, and there was a distinct grumble made that, owing to his having to be at the Teachers' Course in January, and assist in the judging in the Small Holdings Competition in St. Mary in February or March, he would not be able to visit the district in the next two quarters.

The work Mr. Arnett is doing, in the district around Ocho Rios among small settlers, is especially valuable. Although the soils are still rich, bananas are often slow to grow, and they suffer quickly in spells of wet weather and dry weather. He has been carrying through a system of trenching in small settlers' places, and the results have been so effective and satisfactory that the system is being copied quickly. Much cocoa is also being planted, through his efforts, where people have only one or two trees growing, who should by this time have had hundreds. One settler has planted out 1,000 hills with Criollo cocoa seeds from two old luxuriant trees in his cultivation, at the Instructor's instigation.

The white scale is rampant all through the northside on all citrus trees, and lime trees through the pastures are dead by the hundreds, but not more than 25 per cent., I think, of the whole, and those left were making such a good fight for existence, that, I think, when rains come, their vitality should enable them to throw off the scale, to some extent, with the vigour that comes with a fresh growth. Still, planters ought to have been treating their trees on this scale first being observed spreading. In this connection I was greatly interested and impressed with the work Mr. Cory was doing on Dr. Pringle's large citrus grove at Shaw Park, Ocho Rios, where, in spite of bad treatment on the first planting nine years ago, just what killed out most of the groves planted about that time, a big fight has been made to save the grove successfully. The trees now all stand open around the necks, deep draining has been done, and constant washing is kept up. The fight Mr. Cory has made against the white scale forms such an interesting and instructive story that I have submitted a special report on the subject to the Board.

The pimento crop was, of course, short everywhere, practically none many places; about a third crop in some places.

There was a great demand for bananas at Rio Bueno and Falmouth, when I was in Trelawny, owing to the great scarcity in St. Mary, and the price had been ranging from 1s. 3d. to 2s. per bunch, while, at the same time, the price offered on the south side of the Island—some parts at least—was only 9d. There was, in consequence, a good deal of talk about banana cultivation again in Trelawny. At one time, when there was a similar demand, and in view of the opening up of Falmouth harbour, some planters put in substantial acreages. When the bananas were in full bearing, steamers stopped calling, and thus caused them loss and discouraged them. They are afraid the same thing will happen again, although they have received assurance from the agents of the companies that their steamers will call regularly, and the agents give this assurance on the assurance of their companies. But this is not enough. Some of the very finest bananas are shipped at these two ports, Rio Bueno and Falmouth, and there are plenty of lands in Trelawny, which could produce first-class bananas economically. Mr. G. P. Dewar and Dr. Dewar have shown that bananas can be raised profitably on such lands, and with such a low rainfall, as few would have dreamed could have grown bananas a few years ago, simply through trenching and mulching. In this way lands that cannot grow cocoa may be utilised in bananas as a cover crop to coconuts. What is wanted in Trelawny, with headquarters at Falmouth, is some organization, through which the matter of growing bananas on a systematic basis can be discussed. It does not appear to me a useful or satisfactory way to act single-handed. Some reasonable assurance should be received from the companies that they will, assuredly, buy bananas, and this should not be received by single individuals, but by an organized body, and I would suggest resuscitation of the Trelawny Agricultural

Society, in connection with which, men, who have the interest of their parish and district at heart, should take steps to meet together, as early as possible, and form the organization suggested. The sugar planters have their organization; that is a special industry, with big interests in the outside world as well as at home. If ever there was a place that needed an Agricultural Society, that place is Lower Trelawny. In the dry areas, along the coast, cotton should be tested systematically. A few miles inland, there are fine agricultural districts, and there are as good lands for banana, cocoa, and rubber, as any in the Island, but, at present, they are nearly all pens. I get to hate the word when I think how productive many of these lands could be in exportable crops. When I saw the coconuts waving on Mr. G. P. Dewar's lands, planted out in regular fashion, and, in spite of drought, flourishing, apparently almost drought-proof, and, knowing something of the systematic care and attention, thought and calculation, that had been expended on them all in a strictly business way, and no fancy experimental sort of way, it made me think how flourishing Lower Trelawny could have been, if, when sugar estates went out of sugar, part of the lands had been planted through with coconuts immediately, when the cane trash on the land was still available. One could now have driven through groves of coconuts all along through Lower Trelawny. No place has a better opportunity to grow coconuts than Jamaica, with so many optional crops to pay the way while they are growing, and especially with bananas as a cover crop. What is wanted in Lower Trelawny is system and organization. I saw at Weston Favell Castilloa rubber, a year planted, 8 and 10 feet high, and spreading too. Cocoa also, all varieeties, as good as anywhere.

Rain came in some places, for the first time for months, when I was there, but, still, Falmouth district was very dry, having only 8 inches 32 parts from the beginning of the year to the 31st October, mostly in light showers not of much service. Towards St. James side, good rains had fallen, and all the vegetation that side was fresh and green. The coastal sugar estates did not look so bad as I expected, certainly much better than some on the south side. They will all be late as elsewhere; some nearest the coast will make but a normal crop, others half, and some fortunate inland estates will make nearly an average crop.

There are a good many gets of "Sir Gerald" in Lower Trelawny, and, as a rule, they run big there. Dr. Dewar and Mr. G. P. Dewar especially have both very fine broad mares. Mr. Arnett himself has several. It seems a good horse-raising district, better than other parts of Jamaica usually credit it.

Owing to the demand for bananas, large quantities were being sent down from Upper Trelawny. On Mondays and Tuesdays there was a long procession of waggons, drays, carts horses, donkeys, and head loads of fine bunches. Sugar, too, was selling at a very high price, and, towards the end of the week, loads of "wet sugar" were being sent to the lowlands. The coffee trees were loaded with berries, and the whole district there had been, apparently, little affected by the drought- at any rate had quickly recovered. Where all the money is put that goes into Upper Trelawny for bananas, sugar, and provisions is somewhat of a mystery.

Some of the finest scenery in Jamaica is hidden away in Upper Trelawny; magnificent well watered valleys, with rich cultivable soil; cockpit country, and heavily wooded country; and, passing to the lowlands, the wonderful basaltic cliffs of the Alps sheer up and down 1,000 feet.

Altogether, I think Mr. Arnett has a more varied district for soil, climate, and productions than any other instructoral district, and, though it is a difficult matter to cover such an extent of country as efficiently as could be wished, if our present policy and arrangements can only have continuity, I should expect substantial results from his steady work.

I called on the following gentlemen while on my tour:—Rev. W. M. Webb, Stewart Town; Mr. Plunkett, Fontabelle; Dr. Dewar, Pantrepant; Mr. Guy S. Ewen, Western Favell; Rev. A. W. Ross, Hampden; Mr. C. A.

Nunes, Merrywood; Rev. W. Evelyn, Whitehall; Mr. W. S. Groves, Ocho Rios; Mr. F. Cory, Ocho Rios; Mr. R. L. Young, Brown's Town, with all of whom I had conversations on different branches of agricultural work.

ECONOMIC USES OF PRICKLY PEAR.

WITH the communication received from the Commissioner of the Turks' and Caicos Islands by the Government, and forwarded to us (see page 214 of the October JOURNAL), in which prickly pear was recommended as a drought-resisting fodder crop, and useful as a reserve in the long, rainless periods, which occasionally occur in all tropical countries, even those with good rainfall, as a rule, the following information was enclosed:—

In consequence of numerous inquiries made at the U. S. Department of Agriculture as to the forage value of prickly pear and other species of cactus, a bulletin, No. 74 of the Bureau of Plant Industry, entitled "The Prickly Pear and other Cacti as Food for Stock" was prepared and published. Further investigations are in progress as to the chemical composition of the most useful forms, methods of planting, yield, frequency with which cacti may be harvested, varieties and their distribution, method of preparation and feeding, and the value of these plants compared with other forage plants. No. 91 of the same series is a continuation of No. 74, designed to furnish information upon feeding prickly pear to stock in Texas.

PROPERTIES OF PRICKLY PEAR.

For the purposes above named, prickly pear has two properties which make it valuable for pastures:—

(1) It can withstand long periods of drought without injury. It has limitations, however, in drought resistance. It has been severely injured during some droughts within the memory of the present generation.

(2) It is protected by spines, so that it cannot be materially injured by pasturing without artificial preparation. Were it not for the spines, the plants would, probably, have long ago been exterminated.

USES OF PRICKLY PEAR FOR FEEDING STOCK.—PRICKLY PEAR AS AN EMERGENCY RATION.

In Southern Texas by far the greatest quantity of prickly pear is given as an emergency ration to keep the cattle alive during severe and prolonged droughts. For this purpose its value cannot be overestimated, for the supply of prickly pear means the difference between live and dead cattle. The uncertainty of the seasons makes grazing hazardous and expensive in the dry parts of Texas. The rancher with small means is often caught with his cattle so poor that he cannot think of moving them long distances to better pastures, even if he has the means and can find the feed. He waits day after day hoping for rains which do not come, until his cattle

begin to die from starvation. Then it is too late to remove them to new pastures, for experience teaches that working or driving starving animals is invariably productive of heavy losses.

It is in an emergency of this kind that the prickly pear becomes a boon to ranchers. Were it not for the prickly pear, they would have to move their cattle out of the country once every four or five years on account of droughts. Theoretically, a rancher can safely stock his pastures to their capacity during the years of poorest production only, for the weakest link in his monthly chain of feed measures his strength in the stock business. For what matters it, if he can accumulate a herd of 500 head of cattle, and a six months' drought causes a loss of 30 or 60 per cent. in his herd?

With plenty of prickly pear in his pasture, however, this danger is largely removed. In this crop the rancher has a feed which does not deteriorate, if not used for three or four or even ten years. It is as good at one time as another, and can be fed by him at a couple of days' notice under any circumstances.

PRICKLY PEAR FOR DAIRY PURPOSES.

It is universally recognized throughout South-western Texas that prickly pear has a decided tendency to increase the flow of milk, and many farmers give more or less definite quantities of the leaves as a supplementary ration. It is not generally maintained that it has any great nutritive value, but it is used mainly for its succulence. To maintain an equal milk production throughout the year, green feed is essential for winter use. This is furnished by the prickly pear, which is given during the seasons when there is no green fodder. During a portion of the summer, succulence is secured from native grasses. When these dry up, sorghum is given, and, during the remainder of the year, prickly pear. The value of the succulence for the winter months pays for the propagation of small acreages of prickly pear. As much as 100 lb. of prickly pear is often given as daily ration to each milk cow.

It is confidently stated that no deleterious change has ever been detected in the taste or quality of the milk from cows fed on prickly pear.

PRICKLY PEAR AS RATION FOR WORKING ANIMALS.

In Mexico and parts of Texas the oxen, which are the chief beasts of burden, work for months on no other food than dry grass, bush, and prickly pear. Often, the grass and browse are small in quantity, and the stockmen either scorch the spines off the prickly pear with brush, or simply slash into the plant with a machette to give the animals an opening into the clumps. Even when grass is plentiful, prickly pear is given. During long dry seasons the water supply along the roads becomes very scarce, and the teams are forced to cover distances of nearly eighty miles without water on a full ration of prickly pear.

CAUTIONS AS TO THE USE OF PRICKLY PEAR AS FORAGE FOR CATTLE.

It is generally agreed that prickly pear should be given very gradually at first to cattle. Cattle fed on a full ration scour more

or less all the time, especially if they receive rough treatment. A half ration, mixed with dry grass or browse, appears to produce less serious effects. This condition could not be otherwise with such sloppy food, for it occurs invariably with beet pulp, and the results are similar. It is also remarked that prickly pear, when burned, scours cattle much worse than when it is simply scorched enough to take the thorns off. Cows with calf, fed on prickly pear alone, lose flesh very rapidly.

PRICKLY PEAR AS A RATION FOR PIGS, SHEEP, AND GOATS.

Pigs take kindly to prickly pear, especially as a supplementary food. In feeding, great care has to be exercised to destroy the spines, which are very injurious. In many places in Texas it is the practice to give the fruit to pigs, which fatten very rapidly upon it. During dry seasons prickly pear also furnishes the chief food to sheep and goats, for whom access to the leaves is procured by a liberal use of the machette.

METHODS OF PREPARING PRICKLY PEAR FOR FODDER.

There are three methods of utilising the prickly pear as food for cattle, namely, steaming, singeing, and chopping.

STEAMING.

The first method, steaming, is chiefly followed in Australia, the spines becoming innocuous after being moistened for some time. The prickly pear is mixed with bran and other food, and is steamed for about ten hours in large tanks.

SINGEING.

Singeing may be performed by putting the prickly pear over a brisk fire, which will remove the spines from one side of the joints almost immediately. It is necessary to turn the leaves over and burn them again on the other side. Some careful ranchers often leave the plant on the fire until much of the outside has turned black from the heat, in order to ensure the removal of the short as well as the long spines. Others exercise less care, and simply allow the flames to pass over the plant, leaving practically all the short spines untouched.

The use of a gasoline torch for removing the spines originated in Texas. This practice is to be recommended as economical in both the utility of the food and the labour of its preparation. The process consists in passing a hot blast flame over the surface of the plant which can be very quickly done at small expense. The spines themselves are dry and inflammable.

CHOPPING.

In southern Texas rapid advances have been made in recent years in perfecting machines for chopping prickly pear. By the machines now in use the leaves may be chopped into such small pieces that the spines are rendered innocuous. Where labour is cheap, the leaves are chopped with machettes or spades, but this is a primitive method, for many of the spines are not touched. Chopped pear turns sour very quickly, and must, therefore be given very soon to the cattle.

Prickly pear leaves, when cut and piled up, will keep in good condition for several weeks, until prepared by chopping, singeing, or steaming.

OTHER ECONOMIC USES OF PRICKLY PEAR.

(1) The fruit of not less than a dozen Mexican species are delicious, and would form a valuable addition to the supply of tropical fruits.

(2) Very palatable jellies are manufactured from the fruit of some species, and could, under proper commercial methods, be put on the market as choice delicacies.

(3) The young leaves are boiled for food by the Mexicans as greens or manufactured into pickles.

(4) The expressed juice is used for mixing with whitewash for outside work.

(5) Many species are used for hedges, and other useful or ornamental plantings.

(6) The soft pulpy tissue, being very retentive of moisture, are admirably adapted and extensively used for poultices.

(7) Before the development of the coal-tar dyes, some of the species were used as hosts for the cochineal insect.

(8) The juice is used in many of the West India islands to colour blanc-mange, etc.

LOCAL OBSERVATIONS.

During the present drought in Grand Turk, many cows and other animals would have been saved from starvation, had prickly pear been used systematically as food. Even where bran and corn are given, the prickly pear, in the absence of fresh grass, gives the succulence so necessary for maintaining a regular supply of milk. By singeing twenty-five to forty leaves twice a day, and mixing them with bran, I have found that a cow, not only gives more milk, but also puts on flesh.

It is hardly necessary to remark that, at times, it is absolutely impossible to obtain in this Dependency fresh, green vegetables and fruit, so essential for the preservation of general health. Were it not that prickly pear soup is a favourite article of diet among the labouring population, there can be little doubt but that there would be much more sickness than is the case. In Sicily the prickly pear plant has been cultivated to such an extent that the fruit is the size of an orange and has been exported to the United States. As the shoots and leaves have great economic value in these islands as an article of daily diet, I have collected a few recipes for preparing prickly pear in palatable ways, which are given below.

The one danger of encouraging the cultivation of prickly pear, especially in towns and villages, is, that the plants are too often used by lazy housekeepers as dumping places for household refuse and other abominations.

RECIPES.

(1.) GRAND TURK PEAR-BUSH SOUP.

Pear-bush buds or young leaves.
Lard or salt pork.
Dried conchs.
Salt beef.
Vegetables.
Seasoning.

Remove prickles and wash. Chop fine. Steam in lard until the slimy substance is steamed out. When being fried, add conchs cut up into small pieces, ½ lb. salt beef, and any vegetables, with a little seasoning. Add sufficient water to make soup. Boil until vegetables are cooked, adding a little hot water occasionally to prevent soup from becoming too thick.

(2.) PRICKLY PEAR SOUP.

2 lb. meat.
2 cups of prickly pear leaves, chopped fine, or young sprouts.
¼ lb. butter.
4 quarts of cold water.
1 onion sliced and chopped.
Salt and pepper.

Cut the meat into small pieces, and season with salt and pepper. Fry it in the soup kettle, with the onion and butter, until they brown, and then add the cold water, and let it simmer for an hour and a half. Add the prickly pear, and allow it to simmer for three or four hours longer.

(3.) PRICKLY PEAR AND TOMATO SOUP.

1 pint of prickly pear shoots.
1 pint of tomatoes cut fine.
2 quarts of water.
3 tablespoonfuls of rice.
3 tablespoonfuls of minced onions.
1 green pepper, seeds removed, and the pepper cut fine.
3 tablespoonfuls of salt.
¼ teaspoonful of pepper.
Follow the directions in the latter half of Recipe (2).

(4.) BOILED PRICKLY PEAR. (*a.*)

1 quart of young prickly pear shoots.
1 tablespoonful of vinegar.
Pepper and salt.

Wash the prickly pear well in cold water, and place in a saucepan. Add a pint of water and a tablespoonful of salt. Cover the saucepan and let the prickly pear simmer for half an hour. Place in a dish, and season with salt and pepper, and cover with white sauce (or) pour a tablespoonful of tarragon vinegar over it, set it to cool, and serve as a salad with roast meats.

(5.) BOILED PRICKLY PEAR. (*b.*)

The young sprouts should be boiled in salted water for about twenty minutes, until they are tender, drained and heated into cream (a scant cup to a quart of sprouts), a tablespoonful of butter, with salt and pepper.

THE COCONUT INDUSTRY.

YEARS ago it always struck us, when visiting districts where many sugar estates had been flung up, and turned into pens to raise cattle, that the cattle industry would soon be in a parlous condition, for here were large estates, not only using large numbers of plough cattle, which they bought, but employing large numbers of men, who ate, at least, a little beef every week, diminishing consumption and becoming producers instead. And we thought, if large parts of these estates had been planted in coconuts, these would have been productive almost as soon as the cattle, and infinitely more stable and lasting, and less troublesome as an industry, while the colony would have benefited so materially, that, with twenty times the number of cultivated, bearing coconut trees, as at present, we should not have been so much at the mercy of one product as we are. Prices for coconuts were low for a number of years, and many spoke of their objections to planting more coconuts, as the low prices, and fear of over-production, that it would not pay. Just the same thing was said about cocoa also then and is being said about rubber now. We pointed out how the market pendulum swung—a period of low prices, and then a period of high prices, and that this had characterised most of our Jamaica products.

At the present time the price of coconuts is very high, the local price 115s. per 1,000, being higher than the London and New York prices of 1902. Cocoa has almost doubled in price within a year, and will remain high for a few years yet, it is expected. For rubber prospects, the article following this will explain. A steady planting of coconuts is going on, but it is a mere nothing compared to the places that are fairly suitable, and which, under cattle, return but little. The present article will show how the world's markets for the coconut and its products stand.

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THE SHORTAGE IN COPRA.—The shortage in the copra and coconut oil exports from Ceylon, during the first six months of 1907, was considerable, and, no doubt, this is in part due to the devastating cyclone, which ruined many of the fine mature plantations in the Eastern Province in March of this year. In copra the shortage during January 1st to June 30th, 1907, was 40,027 cwts. compared with the exports for the same period of 1906; and over the same periods the shortage, in 1907, of coconut oil, was 61,833 cwts.

The exports of each product, during the first six months of the two years, were as below :—

	1906.	1907.
Copra	156,493 cwts.	116,466 cwts.
Coconut oil	191,948 ,,	130,115 ,,

This shortage in copra seems to be common throughout the tropics, wherever copra is produced; and in America the trade is feeling it. On the present condition of the market there, we quote as follows from the New York "Oil Reporter" :—

The market for coconut oil is very firm in Chicago, and buyers are not able to secure the oil, as they find they have need for it. The great scarcity of the raw material is the thing which has been the principal factor in creating the present stringency in the market, and dealers here do not seem to be able to predict any prospects for betterment in the near future. Conditions in practically every part of the world where the coconut is used for the production of copra are such that the crop is short. There is a deficiency of about 40,000 tons in the Philippine Islands. Tahiti is declared to be short about 50 per cent. The furious hurricane which swept over the Caroline Islands, April 20, did great damage to the coconut crop. Trees were uprooted, and those which remained standing were denuded of many of their coconuts.

A big Pacific Coast mill has sold its produc of oil as far ahead as next October, and is not offering another pound of oil either before or after that time. So far as has been learned there is small probability of there being any more copra to come to this country than the amount that already has been contracted for, and the policy of selling oil short, in the hope that there will be a new supply of copra, does not obtain in the trade. While it has not generally been the rule for the Pacific Coast mill to sell oil as far east as Chicago, this has been done to a considerable extent within the last few months, so eager were the soapmakers here to secure the oil. Ceylon oil is quoted at about 9c., while Cochin oil is held at 10½ at 10¾c. per pound. This for the direct import oil, and the domestic make, is quoted at about the same price.

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COCONUT INDUSTRY IN THE FEDERATED MALAY STATES.—THE INSPECTOR OF COCONUTS' REPORT, 1906.—Although the climate, soil and other conditions of the Malay Peninsula are eminently suited to the cultivation of the coconut palm, this product has not been very extensively taken up there yet, either by European or native capitalists. Where European enterprise has taken up agriculture in the Peninsula, coffee and rubber have received main attention; and on some estates, where coconuts were planted a few years ago, these have been cut out, even when near the bearing age, to make room for rubber.

The Department of Agriculture of the Federated Malay States has been wise in seeing the advantage of fostering the coconut industry, and especially in the direction of enforcing cleanliness on

the plantations and the destruction of such pests as coconut beetles, and an Inspector of Coconuts, with the assistance of sub-inspectors, sees that the various plantations are kept in order as regards plant sanitation.

GOOD COCONUTS DESTROYED FOR RUBBER.

It is mentioned that in Selangor State a large number of coconut trees are being cut down, especially by Europeans, "to make room for rubber that had been interplanted. I cannot believe that this course was a sound one, especially where there was a fair acreage of coconuts, and the trees either in, or just coming into bearing. . . . To instance a case—130 acres of healthy and well-grown coconuts, just coming into bearing and worth fully $275 to $300 per acre, were cut down to make room for some rubber, while the latter had not been planted much over a year. In face of the fact that other land was available on the estate for rubber planting, this was, to my mind, a work of wanton destruction, which, I believe, the company may have, in the course of time, good cause to regret."—*The Tropical Agriculturist.*

THE RUBBER INDUSTRY.

Rubber Shares and Over-Production.—The attention of investors has of late been again called to rubber-planting companies by two causes—one a succession of satisfactory reports and dividends (including a distribution of 35 per cent. for the year by the Vallambrosa Company; the other, the fact that amidst shrinking investments and crumbling markets rubber shares form a striking exception, as not only have quotations kept steady, but in many cases actually advanced. The results of working, already published, demonstrate the substantial returns which are obtainable from this industry, and the most cursory examination of the position serves to show that the profits as yet earned by the older companies are likely to be largely exceeded in the near future. The explanation of high earnings lies in a nut-shell: "Plantation Para" rubber is selling at 5s. per lb., and is being grown at a cost of about 1s.—a gross profit of some 400 per cent. At the present time there is undoubtedly a lot of money in rubber—the question which naturally suggests itself to the business men is, "How long will it last?" Is it not pretty certain that the rush to plant new land, which is already in progress in various parts of the world, will very soon result in such over-production that the price of rubber will come down with a run, and all the profits melt into thin air? Emphasis is lent to this question by the fact that during the present year the price of Para rubber has come down from 5s. 3d. (the quotation in January last) to 4s. 7d. per lb. It is true that during the same period Plantation Para only shows a net fall of about 1d. per lb., and that there are indications of a reaction in the wild product, the fall in price

having apparently been due principally to local and temporary causes. Still the cautious investor naturally feels qualms.

To form any reliable opinion upon the prospects of the whole industry, a comprehensive view must, of course, be taken ; and it is therefore necessary to consider briefly the question of consumption and production of rubber all over the world. In this as in any other commodity, the future price depends upon supply and demand.

THE CONSUMPTION OF RUBBER.—Firstly, as to consumption. It is a matter of common knowledge that there is a rapidly increasing demand for rubber for manufacturing purposes. The motor industry alone is responsible for a steady expansion in consumption, while for electrical and numerous other undertakings rubber must be had at any price. It is estimated that at the present time some £25,000,000 worth of rubber is being used yearly. For the last few years the figures of the world's consumption are as follows :—

1903	–	–	50,384 tons.
1904	–	–	55,275 ,,
1905	–	–	61,307 ,,
1906	–	– (about)	65,000 ,,

This is an increase of, roughly, 10 per cent. per year. For 1907, some of the trade reports anticipate an output of 70,000 tons, but it is considered likely that consumption will readily absorb the increase.

THE WILD SOURCES OF SUPPLY.—Coming to the question of supply, it is noticeable that the world's rubber production has hitherto barely kept pace with consumption. Of the total supplies, an overwhelming proportion at present consists of wild rubber. As regards the quarters from which the rubber comes, statistics show that tropical America contributes about 63 per cent. of the world's total, tropical Africa 34 per cent., and Asia 3 per cent.

The principal source of supply is, of course, Brazil. It is calculated that of the total amount produced in 1906, at least 38,000 tons have come from the vast rubber forests of the Amazon basin. The keen demand which has existed of late years, however, has led to such severe tapping of the trees in all the more easily reached districts, that it is now necessary to penetrate deeper and deeper into the interior in order to obtain fresh supplies of wild rubber, which, of course, means that the cost of collection is steadily mounting. In fact, so great are the difficulties to be overcome, that, allowing for export duty and other charges, it now costs about 3s. per lb. to bring this class of rubber to market. It is evident that from this source, at any rate, there is no chance of any rapid increase in supply. In fact, with regard to wild rubber generally, it may be said that if it were possible to augment the output at any great pace, this would already have been done, since the high prices ruling for some years past have been ample inducement for strenuous efforts to increase collection. In the tropical forests, both of Brazil and other parts of the world, there are, undoubtedly, vast supplies of

rubber—if it could be reached at a cost which would make collection profitable.

Plantation Supplies.—The active extension of cultivation will, of course, lead to a rapid growth in the output, but allowing for the large acreage of young rubber which is already planted, and for all possible speed in the planting out of fresh land, it will be a good many years before supplies from these quarters can reach a total which will appreciably affect the position. This point was very ably explained by Mr. Herbert Wright, the well-known expert, in his recent lecture before the Society of Arts, upon "Rubber Cultivation in the British Empire."

Even when allowance is made for the supplies of rubber, which will be forthcoming as estates gradually come into bearing in Java, Borneo, Sumatra, the Phillippines, Nicaragua, Honduras, Mexico, etc., there does not seem to be any serious reason to fear an excessive production for, at least, seven or eight years to come. As shown by the figures quoted above, the normal expansion of demand (which should, by 1912, make the world's consumption over 100,000 tons per annum) ought easily to absorb the additional supplies, which will be forthcoming as the result of planting.

Supposing, however, that increasing supplies bring about a fall in the price of rubber, a new factor will immediately enter into the position. There are certain purposes for which rubber must always be used, and for which it would be bought even if the price were 10s. per lb. But there are many other directions in which it is not used at present, because the cost is prohibitive. Assuming, however, that the price fell substantially—say, for instance, to 3s. per lb., a huge demand would immediately spring up for such purposes, including floor covering, and even road paving. Moreover, if the price fell to the figure mentioned, it is questionable whether it would any longer pay to import Brazilian wild rubber at all, and the gap caused by the cutting off of the 38,000 tons now coming from the Amazon would have to be filled by the plantation product, which, as already explained, can be grown for about 1s. per lb., and would, therefore, still yield a handsome profit if sold at 3s. or 4s. Obviously, however, it will be a very long time before supplies from the plantation can approach such an output as above mentioned, so that meanwhile a sort of automatic check may be expected to put the price above 3s. again, should it any time dip to that figure. The reasonable conclusion then seems to be that any substantial fall in the price of rubber is unlikely for the present; while it is highly improbable that a fall below 3s. or 4s. per lb. will take place for a great many years to come.

To sum up the situation, rubber planting, like all similar enterprises, is undoubtedly subject to various risks, and it behoves the prudent investor to make sure that the return upon his capital shall be commensurate with the risks involved; but amongst the perils in question, over-production may fairly be regarded as a somewhat distant danger, which it would, doubtless, be foolish to ignore, but

ıich it is equally foolish to magnify into a bogey.—*Investor's ıronicle*, July.

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THE EASTERN RUBBER INDUSTRY.

(*From The Tropical Agriculturist.*)

Mr. H. A. Wickham, the pioneer of the rubber planting indus-y who conveyed the first seeds of Para rubber trees from Brazil to ..e Kew Botanic Gardens, and who still takes an active interest in the industry, sends us some interesting notes in a letter recently received. He says :—

"Regarding your interesting notes in the *Ceylon Observer* of May 16th, I may say that the variety in species in the *Hevea* is nothing new to me; and appears to be of no moment (for concern, that is) to you planters of the East—in that your present day's "plantation Para" trees are in lineal descent from the true *Hevea brasiliensis*. You can rest assured that in selecting the original stock in the high forests (the *monte alto*) on the plateaux of the Rio Tapajos tributary of the Amazon for the Government of India, they were carefully selected by myself and only from large-grown forest trees.

Close-planting.—You have, however, as I believe, cause for consideration. As you already know, I am not altogether enamoured of some of the latter-day methods now obtaining on the estates.

In the first place, it would appear that the rubber trees are being altogether too closely planted. It does not seem to be sufficiently remembered that the *Hevea* is by nature a large forest tree. All my later experience tends to confirm my belief as expressed and recommended in my original India Office reports—that the half chain (33 by 33 ft.) is not a foot too much spacing in order to allow this tree to attain proper growth. Attainment of cylindrical girth and thickened bark is the object to aim at. Many of these plantations now coming forward strike me as presenting more the appearance of a growth for scaffolding poles!

Thumb-nail Pruning.—It will be found also that increase in girth, and, consequently, thickened bark will be much enhanced by stopping back the central budshoot in the young saplings at 10 feet, so as to form three primary branches in the tree. The lower trunk, 6 feet upward from the ground level, will, in practice, be found the working area for extraction of the crop of latex.

As I pointed out in my original report, a rule may be accepted that "the nearer the ground the richer the milk." For that reason it has always been my practice to work from the ground upward. For some reason unknown to me, they appear (in the East) to be doing the reverse.

Incision vs. Excision.—Again: As to methods for extraction of the latex now being evolved, I still adhere to the principle of a clean sharp incision as against excision, *i. e.*, removal of growing tissues. As a matter of fact, under the process as now obtaining with you, there will be no old mature bark left to work upon—only

renewed tissues a certain number of months old—to say nothing as to increased and increasing strain set upon the vitality of the trees. It will be hardly a matter of surprise if this, sooner or later, induces root-failure and its consequences.

I confess I do not see reason in these methods. Watching estate returns published, there does not appear any appreciable increase in yield over methods of clean incision, which with quickly re-united latex ducts (cut but not excised or removed) produces a minimum tax on the vitality of trees. Then, again, in

TREATMENT OF AND CURING THE LATEX,

I feel confident as ever in my first reports to the India Office, that the antiseptic smoke cure, is, and in the end will be found to be, the true and best method for making strong "fine Para," and that in the long run rubber cured in no other way will be found to have the same strength and durability under wear and tear and atmospheric variation. The whole subject of the making (curing) of the rubber would seem to have been regarded too much in the nature of an experiment, It certainly does not appear to have been known that certain of the forest Indian tribes have from time long anterior to the coming of the Spaniards, been in the habit of making rubber goods for their own use, in quality of strength and durability excelling any modern factory-made articles. In fact, I found under the equatorial forests, European-made rubber articles perished so rapidly as to become soon useless, whereas Indian-made wore thoroughly."

SISAL HEMP ROPE.

We import about £8,500 worth of hemp rope and other cordage into this colony every year. Besides this, different kinds of native made ropes are used. There is mahoe bark rope, for the making of which are destroyed many hundreds of trees, which are about the most valuable for lumber that we have. There is trumpet bark rope, which is stronger than mahoe, and as the trumpet tree grows quickly, and is mostly used for a shade tree for coffee, it is good to utilise it in this way. Then there is thatch rope, made from the thatch palm, much used in St. Elizabeth, but it does not last long. Neither of these ropes stand wet much, and they have not the strength of hemp rope. Sisal hemp grows wild in the colony, stands dry weather almost to the extent of the cactus, in fact almost desert conditions. Our neighbouring country, Yucatan, grows sisal hemp to a large extent. In the Bahama Islands it is also an important industry. The fibre is better when it grows in dry countries. In the plains of St. Elizabeth it flourishes anywhere, and a nine months drought did not affect plants growing, where there was, apparently, no earth for the roots to fasten on, on the tops of rocks. In Christiana there are some people, who sit down in the evenings and plait coils of rope, each coil running to a pound, or a pound and a half, weight, just the length and thickness of what we call a "head rope" for horses

and cows. These ropes have also the plaited loops at the end, all fixed up ready for use. Yet, in these districts, the people have many irons in the fire. It is a seasonable district, it has a rich soil, and a wide range of products. In the plains of St. Elizabeth the people need crops, and require just some such industry as this to earn money.

There is no part of the Island where the people cannot make a good living, if they are inclined to work steadily, and would listen to agricultural instruction. We would recommend the utilisation of the different varieties of agaves or aloes, which grow so commonly in the dry parts of St. Elizabeth, for the making of good hemp rope, which can be sold wholesale at 6d. per lb. Penkeepers will willingly use these ropes, as they are strong and lasting. On our visit to St. Elizabeth, we took a specimen, showed it to the people, and explained how it was made elsewhere, and how they might have used their enforced leisure doing some such useful work.

But it is not only as a native industry, for local use alone, that we wish to call attention to sisal hemp. As we have pointed out, the production of this hemp is a big industry in Yucatan and the Bahamas. The Queensland Government is spending a large sum of money in fostering a sisal hemp industry in that colony. We notice also that the Natal Government is likely to do the same. At one time the people of this colony, at least those most concerned in agriculture, agitated themselves over this same industry that we now speak of, and £100 was granted for fibre cultivation at Hope Gardens, where fifty acres, at one time, were in cultivation. But nothing came of this, and we are no further advanced to-day than we were then. In many parts of the country sisal hemp is common, growing in hedges and along the road, but we see, at least, three varieties, perhaps four, all called aloes, of which the true sisal hemp is one, and it would be a matter for attention that only this one—and one other that is also good for making rope—should be encouraged. The term "aloes" is, however, incorrect, as the fibre is not produced by aloes, but by different species of agave and furcraea, both of which closely resemble aloes in habit and appearance. The aloes are not producers of commercial fibre.

The price of all fibre is high at present, and is likely to continue so, and the approximate value of the fibres we mention is from £22 to £32 in London. The ordinary value of sisal hemp in London is not less than £29, and is often sold for as much as £38 per ton. There is no lack of machines to deal with this fibre now. The hand methods will do for local use. These hand methods are as follows :—

(*a*) Scraping.—The leaves are cut and the sharp spines and tops removed with a knife. They are then split longitudinally into four or five pieces, which are beaten with a wooden mallet, and then placed on a board 4 ft. by 4 in. by 3 in., and the pulp removed by means of a bamboo scraper, after which the fibre is dried in the sun, and is fit for export.

(*b*) MACERATION.—The leaves are cut and the spines removed as above described. The whole leaves are then thoroughly beaten with a wooden mallet and thrown into tanks or wells, where they are left for fourteen to twenty days, or until the pulp has quite decomposed. The fibre is then taken out, dried and bleached in the sun.

Most, if not all, of the fibre machines in the market require steam or other gear, but mechanical ingenuity has been much exercised in producing a machine, which will clean a large amount of fibre, with only a small number of men to attend to the work. Year by year fresh machines, with improvements in efficiency and simplicity, are put upon the markets, and we publish particulars of a few of these, simply to give planters an idea of what the extraction costs. In a recent JOURNAL we spoke of a ramie fibre machine, made by Hubert Boecken & Co., Duren, Rheinland, Germany. This firm has also sisal hemp machines, offered for £400, and said to clean 12,000 sisal leaves per hour at lowest speed. This machine is, at present, used in the Bahamas, in German East Africa, and elsewhere, and is highly spoken of. Mr. T. Barraclough, 20 Bucklesbury, London, E.C., makes several machines from about £30 up to £400, the latter able to produce 3,150 lbs. of dry fibre per day. Messrs. Death & Ellwood, of Leicester, produce a small hand machine at £45, and a larger machine at £60, and one still larger. In fact, there are machines in the market to suit all sizes of estate and pocket, but the larger machines save labour enormously. The island of Mauritius grows a special kind of fibre, called Mauritius hemp, which yields as largely as 30 tons per acre, and, in 1905, 16,046 tons of fibre were exported principally to Great Britain, worth about £50,000. The average output of fibre in Yucatan, in 1905, was nearly 600,000 bales, nearly 107,000 tons. The Bahamas, in 1905, exported 1,357 tons, valued £37,522.

Sisal hemp grows best in just such conditions as we have in our driest areas, that is, dry, rocky, limestone soil. The dry areas could be as flourishing as anywhere else, if planting operations were adapted to the climate. At any rate we should like to see sisal hemp systematically tried on some estates in the driest parts of St. Elizabeth, simply to show what may be done. Even a hundred plants, set out and cared enough to give them a fair start, would be interesting and useful for experimental purposes. The rate of growth, and return of fibre, could be noted, and actual figures be ready for any development that might happen.

LOCAL AGRICULTURAL SOCIETIES.

WHEN Sir Henry Blake became Governor of Ceylon, he did not rest until he had established an Agricultural Society there, on the same lines as ours, in the formation of which he took such keen interest twelve years ago—that is with local branches in order to get into close touch with the small cultivators. From the "*Tropical Agriculturist*" we take the following article on the subject which

contains many useful hints and ideas for local Societies, to ponder over :—

"On the whole, the report lately presented by the Secretary, shows that both by the Parent Society and the local Societies, there is a good deal of good and useful work being done, and now that Sir Henry Blake has left us, it must be a matter of careful study and concern how to continue this work, for continuity of work and effort is a matter of the very greatest importance in an Oriental country, and should these agricultural societies break down at the present juncture, it will be a work of great difficulty to get any work for agricultural improvement started among the natives of this colony for a long while to come.

"It seems to me, from the acquaintance gained with Agricultural Societies and their work, from recent tours, that the local societies —to which, in the long run, we must look for agricultural progress —do not very clearly understand what to do, and that they are inclined to waste energy in trying one thing after another. It may not, therefore, be altogether out of place to sum up in a few words the general subject of agriculture, of course in the merest outline, and to suggest to local societies that they should carefully study this, decide which are the most likely lines upon which they can do good work, and follow those lines.

"Agriculture requires, for its successful prosecution upon any other scale than the small garden in which the cultivator grows all that he requires, while he eats what he grows, many preliminary conditions which do not themselves come under the heading of agriculture. A man intending to go in for agriculture for trade or export must have the land, he must have the climate necessary for the crops he wishes to grow, he must have irrigation for many crops or in many places, he must have a market in which he can dispose of his produce regularly and at remunerative figures, his land must be reasonably accessible by facilities for transport, he must command some capital, however small, he must have the necessary labour, and he must have crops suitable to the climate and soil, and to local conditions as to markets, &c. Now this is a fairly comprehensive list, and it is obvious that in Ceylon, and elsewhere in the tropics, one can pick out a vast number of agriculturists in whose cases these conditions, or some of them, are not properly fulfilled ; and so long as this is not so, so long can nothing much go on but 'self-sufficient' agriculture of the kind already indicated.

"As regards land, most people in the country in Ceylon have some, but as a rule it is only enough to enable them to grow sufficient crops for a bare subsistance, and is laid out in paddy-fields, provision lands, and mixed jungly gardens of coconuts, mangoes, yams, &c. Now in the case of people in this condition, it is practically hopeless to expect them to engage in trade or export agriculture—*i.e.*, to grow anything for sale—unless an immediate profit can be shown to be certain, *e. g.*, by growing and selling vegetables. Such, for instance, has been done at Ambalangoda, where the local

experimental garden, cultivating vegetables, has been able to pay its way with a margin of profit. If a district is entirely composed of people of this class, with no breaks between them of better equipped agriculturists, then the chance of agricultural progress in that district is but small.

"Climate of course is not a matter that can be of any concern to a local society, other than that they should take care that the crops which they try to grow in their district are such as will suit the local climate.

"The agriculturist must have a market. This may be local, or by export to other districts or countries. Now in the case of export there are many things to be considered. It is almost imperative to grow a product that Ceylon already exports, *e.g.*, coconuts or rubber or cacao. If a man grows what is for Ceylon a new product, he must be able to place regular supplies upon the market in considerable quantity. This alone is sufficient in most cases to exclude any but the comparatively wealthy agriculturist from taking part in any attempt to grow such products. It is far better that he should cultivate such products as are already exported from the island, and if he can sell his produce, not to the local middleman but to an estate cultivating the same thing, so much the better. Here is one of the ways in which the intermingling of various types of agriculturist, above indicated, will come in very advantageously.

"It is, on the whole, better to get the villager to take up things for which he can find a local market at once. The provision of this market must in general be seen to by the society. A very great number of places in Ceylon have no local market of any organised kind, and they must either form one or start a co-operative market supply agency by arranging for transport to and sale in, a distant market such as Colombo. If the villager has to sell to a local or travelling middleman, he will usually do so at a loss compared with what he might otherwise get for his produce. Co-operative transport to a distant market will help them in this respect, besides enabling him to get rid of much that he could not sell at all locally, or only at a great loss.

"This provision of markets is one of the most important duties that can come before a local agricultural society. If the villager grows what we may term in a general way 'estate products,' *i.e.*, products that are cultivated and prepared on the larger agricultural holdings round him, arrangements should be made with the estates to buy these products in such a condition that they can be worked up into produce of the same grade as that turned out by the estate, for in general the villager can only turn out an inferior grade, and such qualities are not wanted on the markets. Rubber, for instance, should be sold to the estate as milk, tea as leaf, coffee as cherry, and so on.

"Provision of capital, again, is a very important matter that local agricultural societies should attend to, and especially the richer town societies. The average villager is practically overhead

and ears in debt at big interest. Co-operative societies for the supply of capital at moderate interest will help him very much if he wishes to try any new method or new crop. It is probable that at first societies for the supply of actual necessaries in agriculture, such as seed, or plants, may be of greater use than societies for the supply of actual capital, but it is for local bodies to decide in each case what they will try.

"Labour is rarely a difficulty to the villager, but it should be clearly recognised that this is largely because he does not properly cultivate his land, and that were he to do so, he would very likely need help.

"We now come to agriculture proper, and can only suggest a few things, the subject being too large for a short paper. The majority of the improvements that are possible in local agriculture want careful study and experiment over long periods, and such work is in general not well suited to a local society; it should be undertaken by the botanical department. But the local society can be of great use in getting the villager to try anything that has proved of definite value.

"One of the great wants of the villager in most places is what we may term 'new products,' *i. e.*, products new to the particular district. They need not be, better should not be, new to the island, for then there is great difficulty in getting a market at first. Now for the introduction of such things, provided the land, the market, the transport facilities, and the capital are available, perhaps one of the best ways is for the local society to start a small experimental garden, and demonstrate by actual growth and sale that these things can be grown to profit. Already a good many people have taken up vegetables in the Ambalangoda district, as a result of the experimental garden there started, and which proved a profitable concern.

"Proper cultivation of his land, and rotation of the crops upon his high or chena lands, are other things that require to be taught to the villager, but in general the local society can do but little upon its own initiative in this direction, except by finding people who are willing to lend land and trouble to try experiments.

"The best ways of preparing produce for the market are in general unknown to, or avoided by, the villager, and local societies might do something to improve them by offering prizes or in other ways. So long as the villager turns out a poor grade of produce, so long must he be content with a low price, or sell in the raw condition to the nearest estate.

"Other lines of work that a local society can attend to are the cultivation of an industry, requiring very little expenditure, but requiring a local market, which must be provided by the society—the organisation of agricultural shows, market fairs, and the like, to arouse interest among the villagers, and the encouragement of school gardens—which afford one of the best means of introducing and trying new products—planting of roadsides, and holdings with useful trees and so on."

WHITE SCALE.

THE following report on this subject was made by the Secretary to the Board of Management :—

With regard to the letter, published in the minutes of September, from Mr. Rerrie, Montego Bay, calling the attention of the Society to the great prevalence of white scale, especially on the northside, I took particular notice of this matter in travelling in the same district lately. Its virulence this year, beyond other years, can be accounted for through the weakening of the trees by the long dry weather. I am asking for reports to be made as to what effect the rains have on the lime trees.

As directed, I published matter in the current JOURNAL on the white scale, and drew attention to the efforts that have been made in cultivated groves. At Shaw Park, near Ocho Rios, Mr. Cory, the manager, has had a long fight with the white scale, and has found no wash as yet of any lasting effect, but he has not, however, tried the lime sulphur and salt wash, which he will now do. He discovered an interesting fact, that black ants appear to prevent the white scale lodging on the trees. On going through the grove, under his care, I was most interested in what he was doing. He said that he had noticed that those wild trees, which had ants nests on them before the white scale became so prevalent, remained entirely free from the scale, although they were surrounded by trees infested with it. He tried the effect of placing nests on *badly infested* trees, but they appeared to have no effect at all, the scale multiplied too rapidly for the ants to reduce it once it had a hold. He then tried placing nests on the trees, which had been thoroughly scrubbed, and made comparatively clear of the scale. This was much more satisfactory, for, in most cases, where the ants established themselves, the scale had not returned, though on trees close by, similarly scrubbed but not having black ants nests on them, the scale quickly returned, and soon got as bad as ever. This, to his mind, proved so conclusive, that black ants are very useful as a prevention but not as a cure, unless the scale is very slight indeed, that he began placing ants nests on all the citrus trees after cleaning them. He was told that he would find the remedy worse than the scale, as the ants would eat into the trees and destroy the bark where the nest was formed, but he has not found any difficulty in preventing this. If the nest gets too large in one place, it is sufficient to cut it off and let it drop on the ground, and, gradually, the ants will find a fresh place on the tree, and the place, where the nest was cut off, can be rubbed with a little mud, made of red dirt or white lime, with a little carbolic in it. In any case even the loss of a branch, now and again, would be infinitely better to the loss of a whole tree, which is a certainty, if the scale is allowed to remain unchecked. It is well, I think, that this interesting experience should be made widely known.

JNO. BARCLAY, Secretary.

[This report brought forth comments at the Board meeting, and some correspondence also, to the effect that ants were a dangerous enemy to orange trees, and carried scales to the trees. This is quite so—some kind of ants, but the report specifically states that it is the variety of ant, called locally "black ant," which is the friend of the orange tree, not the stinging ant, not the duck ant, not the small evil smelling black ant, called "stinking ant," but the big black ant, which everybody knows, and which builds its nest of dirt on trees. Just as there are birds and birds, so there are ants and ants. The owl is a beneficial bird, the hawk is not; the stinging ant, difficult to deal with, is a plague; the black ant is easily kept within bounds, and is a friend on the whole. Men must use their discretion, their reason, their observation, and their experience in their business, and not think that because one kind of ant lives one way, and is a nuisance, that, ergo, every other kind of ant is the same.—Ed.]

POULTRY NOTES.

Fowls in Yards.—The advice you gave to the lady who wished to do a big business in fowls, reminds me of the advice given by "The Field" (London) some years ago. A friend of mine in Jamaica (some years ago) went in for fowls on a large scale; he had in fact the finest lot of fowls I have seen in the Island, about four hundred. He kept a careful account of all cash received and spent. He only cleared £10 one year. He made the fatal mistake of feeding his fowls for many years on one spot, which became very foul. "Fowl sick" came along and carried off all except about twenty. Some years ago I took charge of a large plantation; the proprietor lived on it. He did not like to see fowls at large so he made a large enclosure with wire-netting and sub-divided it. He had been at an Agricultural College in England and passed out "first." He told me to keep my fowls on one side, and before it became foul to move them to the other side, the used side to be forked. I took the additional precaution of liming the whole concern twice a year, and forking to the depth of 12 inches twice a year. I also took care to provide the fowls with cool and clean water. During four years I did not have a single case of "fowl sick" nor yaws.—R. J. Taylor-Domville, Cuba.

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In all the notes we have written on "Poultry" here during the last ten years, we have continually sounded that note—that dirt means disease. Yaws and "Fowl-sick" (Cholera), are the chief causes, with Roup, which cause poultry-keepers loss until they are disheartened. But they will not take the trouble to keep yards clean and yet it is easy.

The first point we insist upon, where fowls are running free, is: do not feed the fowls around the kitchen door or in the house yard at all and do not fling soft food on the ground at all. Scraps should

be fed in yabbas or tins, or on boards ; corn should be cracked in a mill and scattered wide on the common or among the fruit trees, where the fowls must look for it. A different spot for feeding should be taken every morning. Fowl houses should have dry earth spread beneath the roosts every day. This makes the droppings easy to clean out, and makes them of better use as manure. Where fowls are confined in a yard, they cannot keep healthy unless they are supplied with green stuff and with a heap for scratching. All the stable manure, all the house scrapings and kitchen refuse should be flung in a heap in the fowl pen and the corn for the fowls flung there too, so that they have to scratch for it. When fowls have to be confined, two or three yards should be put up and the fowls kept a month in each; if they are large runs, three months in each, which gives time for some garden stuff to be raised in each pen—tomatoes, beans, turnips, carrots, &c., while Gungo Peas should be planted round the borders for shade and use. Doing things like this means that fowls will remain healthy, lay better than running free, and be of use in furnishing manure for the garden all along without trouble. The simple forking of the empty yards for cultivation is sufficient as the ground will be very rich. All the hens in the great laying competitions are confined in small pens or yards, and their laying feats have been wonderful. So because fowls cannot be run at large, they may still be kept with profit, if proper precautions are taken.

* * *

A WORLD'S EGG-LAYING RECORD.—Mr. W. L. Williams, of Sunnyhurst Poultry Farm, South Australia, should be in a happy state of mind : he has again won a laying-competition—at Subiaca, West Australia, this time. In doing so he has established a world's record, viz., 1,494 eggs from six birds, laid in 365 days. The previous record was 1,481 eggs. Not only are we raising the record from time to time, but our breeders are so improving their strains that a 200-eggs-per-annum hen is becoming somewhat common-place. When our farmers have a fair percentage of even 200-eggs-per-year hens among their flocks our egg-production will increase by leaps and bounds. These six hens have produced eggs which, at the average market-price of 8d. per dozen, are worth £4 3s. ; the cost of the six hens for one year's food should not exceed £1 10s., so that, at that reckoning, there is a profit of £2 13s., or nearly 9s. per hen. The actual profit will be very much more, as the price for eggs is so good in West Australia.—*Journal of Agriculture*, Western Australia.

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EGG-LAYING.—The Australian States were the first to start egg-laying competitions lasting a whole year, and these have become so interesting, educative, and instructive in results, that they are popular, and are carried through every year. Egg-laying records have been created. There can be no doubt that a man can reasonably lay claim to have the best laying strain in the world when his hens win the competition in one State, creating a record, and go on and win

the competition in the next State, at a place hundreds of miles away from their accustomed conditions. Six hens are placed in each pen, some pens have cocks, where the eggs are wanted to be sold, most have none, careful records are kept, and monthly statements of income and expenses published. While Leghorns have established themselves as the most consistent winners, more pens of these fowls are entered, so that they have a bigger chance. But there would not be so many entered were they not a popular fowl. Black Orpingtons, although a big breed, follow, and then Golden Wyandottes, and Brown Leghorns. Of the breeds of ducks there is only one in it, Indian Runners, and, in some competitions, they have beaten the hens in number of eggs, and, often, in total weight of eggs laid.

BEE NOTES.

Red Ants and Sanitation of the Bee-hive.

Now that the long drought has been broken by refreshing showers, the trees are once more clothed in green, and many have sent out an early bloom, the perfume of which, and the hum of the bees upon them, should remind the bee-keeper of his, probably, neglected apiary.

Apiaries situated in districts, where there was no wholesome water for the bees, suffered the most. At one of my apiaries in Clarendon, during the months of July, August, and September, if a bucket of honey was placed in the apiary, the bees would scarcely notice it, but let it be a bucket of clean water, and they would be instantly at it.

In dry seasons, when there is no water in the wild pines and pinguins, an apiary of two hundred and fifty colonies of bees will consume, on an average, twenty gallons of water daily. As this is the case, see that your bees are supplied with wholesome water as a sanitary precaution.

Red ants this year have been very troublesome in the apiary. Their chief foods are sweets and the petals of flowers, and as there was a scarcity of the latter, they resorted to the bee-hive for their supplies, but the honey there, the warlike red ants so much covet, they seldom get, as the following will show :—Very often the apiarist comes across a hive, its occupants gone, and the combs mutilated by robber bees. These robber bees, in many cases, are not the real culprits ; they only took possession of the hive and its contents after the red ants had driven out the occupants.

I witnessed a fierce battle between red ants and a strong colony of bees in the month of August last. These ants always work in the night. It was just dusk when a large army of red ants made the attack, and the war waged fierce and strong until after twelve at night. By this time thousands of ants and bees lay dead, but the ants were so much diminished in numbers that the remainder de-

camped. With ants, numbers make their chief weapon, and these red ants returned the next night, reinforced, and attacked the same colony, and by morning had taken possession of the hive. The remaining bees swarmed out shortly after daylight, and no sooner had they done so than the robber bees, finding the sweets protected only by ants, soon made short work of the stores before the ants could profit by their capture. Since that occurrence, I have saved many colonies that have been attacked by these pests by looking over my bees in the late evening, but in my absence from the apiaries, I have lost quite a few. F. A. HOOPER, Barbican Queen-rearing Yard.

[Millions of bees have been lost in Jamaica this year through owners not realising that, like other live stock, they require water to drink. We saw a tank in which, after a light shower, making a break in the long drought, two inches of water had collected, and, on the edge of the water, there were bees in thousands pressing upon each other, eager to drink, while thousands had been forced into the water and were drowned. A few pieces of wood flung in would have enabled the bees to alight in safety, but the bees did not belong to the owner of this tank, and the owner, probably, never thought of water for bees !—ED.]

STOCK NOTES.

THE FOOD VALUE OF MILK.—Two pounds of milk (less than a quart) contain the same amount of solid food as one pound of beef, and as a food milk is more digestible.

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I think that a horse that can trot ten miles within the hour on ordinary roads without losing his action is the perfection of a harness horse. I have known Hackneys that could do more—Norbury Squire, for example—but no one really cares to drive much faster than ten miles an hour. Carriages are not used as a means of locomotion by people who are in a hurry. Such being the case, I do not see the necessity of bringing in a cross to get more pace. Balance, correctness of action, high stepping, quality—and good manners—these are the things which go to make up a good harness horse, who should be able to do his ten miles nicely within the hour without tiring, and, at the same time, be able to make a spurt to catch a train, if required. The very fact that the American Trotter has so much pace goes to prove that he is not the cross to use to improve our modern Hackney. His action is a shuffling sort of gait at best. He uses his shoulders well, but goes with a very straight knee, and, though he uses his hocks well, he gets his hind legs outside his body as it were, and not under it, and one can wheel a barrow between his hind legs when he is going fast. All his action is "extended," and as ill-fitted for a gentleman's carriage as the position of the driver of a racing waggon is ill-adapted for the box of the carriage. A Hackney's action should be balanced, and his hind legs

should be well under him, and he should give the idea of having something in reserve all the time.

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A pamphlet on "Cow Testing Associations" has been issued by the Canadian Dairy Commissioner, in which it is stated that it seems possible to increase the milk production of the cows of Canada by at least 2,000 lbs. per head annually, which would mean an addition of fully £6,000,000 per annum to the returns of dairy farmers in the country, without increasing the number of cows.

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In the Journal of the Department of Agriculture, of Western Australia, for May last, there is a well written article on horses for export. The writer, the chief inspector of stock, knows what he is talking about, as he has been six times to South Africa with horses, twice to Calcutta on the same business, and saw the different contingencies of horses landed for the South African war. He writes :—
"To enumerate all the causes, which have brought about the deterioration of Australian horses, would exceed the limits of the space at my disposal. The climate of Western Australia is suitable for horse-breeding. I am convinced that the influence of racing, as conducted at present, is one of the principal causes why the right sort of horse for general purposes is so hard to get, and so seldom seen. Then the policy of some dealers is to buy in the cheapest market and sell in the dearest. The horse is not valued for his usefulness, but for his lack of usefulness ; not for the work he can do, but for his ability to win one or two short distance races, perhaps five or six furlongs. In consequence, weedy, sickly quadrupeds, who ought to go to the knackers, are travelled about as "thoroughbreds" to the discomfiture of all who wish to see good and useful horses, and a farmer will pay 30s. for the use of a legless bag of bones under the name of a thoroughbred, who won't pay three guineas for a reliable sire. The worst of all sires is a weedy thoroughbred. Perhaps, at one time, racing improved the breed of horses, although even that is doubtful. But it does so no longer ; that is certain. Speed is now everything, substance is sacrificed and the qualities, soundness, staying powers, and endurance, at one time famous, have been bred and 'improved' out of existence."

PIGS AND DIRT.

THE greatest trouble that pigs suffer from, and suffer badly, and the source of nearly all the diseases, and almost every mysterious death that people write us about, is *dirt*. On our travels lately, we saw small pig-pens, where the unfortunate, miserable occupants had just room to turn, and which were four to six inches deep in filthy, wet muck, which the owners admitted never had once been cleaned over a period varying from a month to three months. Few

pig-owners ever cleaned their pens out regularly we found, some not at all, until the pig was killed, only adding an armful of grass now and then, but the general rule seemed to be to trust to the remains of the green food thrown in for bedding. Not only is such a thing cruelty to animals, deserving prosecution, but the animal, being in such a pen for months, must positively be diseased, and its flesh unfit to eat. We call the attention of the Instructors to these matters, and beg them to insist on, at least, a moderate share of comfort and cleanliness for such small stock. Points for the care of stock, in the prize holdings competition, include pigs, but this is apt to be forgotten, and only horses and cows considered. Why can people think that they are good, and kind, and considerate when they are really utterly cruel and thoughtless about such helpless animals. Few instances, in the way of mal-treatment of stock that we have ever seen, caused us more genuine concern than the ignorance and unconcern of these pig-owners. To see the utter misery of those pigs, confined in those small pens wading among their own filth, compelled to eat food flung down in it, and with no water ever offered to them—the dirty slop occasionally thrown in a stinking dish never cleaned, being supposed to be enough for them.

And people actually hold the idea in some districts that a pig, once in a pen, must never be shifted or it will fall off in condition. Yet small settlers in other districts, where good pigs are raised, tie them out, and shift them about every day ; and many pen their pigs, indeed, but it is a movable pen, which is occasionally shifted, so as to manure the ground, while we ourselves have always been the advocate of the system of moveable pens, consisting of four hurdles wired to four posts, forming a square or oblong pen, which every week, at the most, can be shifted along one space to fresh ground. Such pens can be used in cultivated places for the triple purpose of confining the pigs and providing fresh feeding ground for them, and of manuring the soil.

BANANAS.

A FEW years ago it was reported that the United Fruit Company—the largest concern of the kind in the world—was about to plant bananas in Cuba, San Domingo, and Costa Rica. Many banana planters in Jamaica immediately jumped to the conclusion that the banana industry in Jamaica was done for.. Few looked at it from a proper point of view. How could such a huge concern be expected to have all its eggs in one basket? Had the United Fruit Company depended on Jamaica alone, how would it have fared off after the hurricane in 1903? At the same time great things were expected from Cuba as a banana growing country. An experienced planter was sent over, and about, if not quite, five thousand acres were planted. The plantation was visited by the Attorney from Jamaica, and it was placed in working order, not by "green-horns," but by men selected in Jamaica by the staff of the United Fruit Company.

It must be naturally supposed that the best men were selected, and sent over. In 1905, I asked one of the leading men (one who knows more about the subject than any other man) how were bananas doing in Cuba; he said: "Cuba is not a banana country." We have five thousand acres at Banes; we intend to do away with them and plant canes. Now, it is quite evident that if the United Fruit Company cannot profitably grow bananas in Cuba no one else can. I had a look around the bananas there in the fall of 1905, also some large fields on the borders of Nipe Bay; the land was splendid; ideal cane land. I came to the conclusion that bananas were not suitable. Labourers could not be got for five shillings and threepence a day. Jamaicans said they could not work for only a dollar and a quarter a day. Weeding and pruning was being done; forking, in most places, was out of the question. It would have cost anywhere from eight to twenty shillings a chain. The Jamaican would not do it (he does not come to Cuba to work), and that sort of work is quite out of a Cuban's line, so between dry weather, cold spells in the spring —at the very worst time—and high wages, the banana industry must be looked on as a failure. No better cane land can be found in the world, and canes are being planted. The worst evil of all is the cold snap, which prevents the fruit from coming in at the right time. The banana planters in Jamaica know what a cold snap means. In Cuba the cold snap is almost frosty. At the present time, Costa Rica is the bug-bear, and yet the planters there say they do not clear so very much per acre. The land there is, I am told, splendid: a piece of sucker, stuck in the soil, giving a bunch. For all that Jamaica continues to export about five million more stems than Costa Rica. Banana planters should stick to their guns, like the sugar planters, who never say die, but are always hoping for better times, which are, however, a long time coming.—R. J. Taylor-Domville.

[As a matter of fact, more bananas are cut per acre per annum in Jamaica than in Costa Rica. This comes from the necessity, which has been forced upon the banana grower here, to use thought, and work, and care in his business, and so study the science of it.—Ed.]

COMPENSATIONS.

It may not be always comforting at the time the troubles happen to reflect that there are always compensations. It is at any rate philosophical to think so—facts bear the thought out. Kingston will, we hope, be rebuilt in a form worthy of its position. The long drought has caused many penkeepers to take the opportunity of ponds and tanks being dry to extend or repair them; most were found very dirty and to have been leaking. Numbers of small tanks and ponds have been made lately, are being made now, and will continue to be made by small land-owners, who had none of these or had not enough. Scores of planters are studying the effects of mulching the soil closer than ever they did before, and the result will be every

year a large application of good manure which the land otherwise would not get. We question if there will be much banana trash wasted in future, as it has been wickedly wasted heretofore. The soil will probably bear next year as it has not borne before, and where the staple crops are not irretrievably ruined—as unfortunately in a few places a good many trees have been, they will yet come on in a marvellous manner.

Our great danger is in forgetting the lessons. We are sanguine, and it is a good thing to be sanguine, but optimism comes to nothing at all but empty words, if it is not supported by thoughtful, cautious and continuous work.

In countries where there is a winter the people are obliged to be industrious and thoughtful enough to lay up stores for the winter, or they would die out. The bees and the ants do so there also,—but do they not do so in warm countries? The bees have the same habits here—they are continually laying up stores of honey, far more than their possible progeny can require. We have seen hundreds of pounds of honey taken out of an old hollow tree. It is the same with the ants. Their instinct, developed through generations of life in hot countries, tells them that there are times and seasons when they may not be able to work, as in long continued seasons of rain, or when they may not be able to get food in spite of their labour, as in long drawn out times of drought, and so they go on laying up stores of food. They know, and act upon this knowledge—as we happy-go-lucky humans do not act—that even though they may not need the stores next month, or even next season, or even next year, there will ultimately come a time when they will be required. Go to the ant, said Solomon, and read yourself a lesson in industry, perseverance and forethought. It is a good text for us.

TAKING THE TEMPERATURE OF ANIMALS.

The veterinary surgeon borrowed the clinical thermometer from the human practitioner, and generally uses an identical instrument, but a few years ago there was brought out an animal clinical thermometer, suggested by Professor Fred Hobday, F.R.C.V.S., which is more suitable for the purposes of the stockowner, because it leaves him less dependent on his memory as to the normal or healthy temperature of the different animals of the farm. The instrument is graduated from 95 degrees to 112 degrees Fahr., each degree is divided into fifths, and arrow marks indicate the normal temperature of the several domesticated animals.

On the ordinary clinical thermometer, probably still in most common use, there is only a small arrow mark on the scale at 98 deg. This indicates the normal healthy temperature of the human subject, but with this we have nothing to do, since the average normal temperature of all the domesticated animals is higher than in the human subject. Further, the temperature of health differs in each species

of animal, and thus to make an intelligent use of the clinical thermometer, we must know the average normal temperature of each.

The average normal temperature of the principal domesticated animals with which the farmer is likely to be called upon to deal are as follows:—Horse, 99 deg. to 100.2 deg.; cow, 100 deg. to 102.2 deg.; sheep, 102 deg. to 103.1 deg.; pig, 102 deg.; dog, 100 deg. to 101.3 deg.

The range is explained by the fact that age influences temperature very materially, just as it does pulse and respiration. It is always higher in young than in old animals. In an aged cow, for example, it may be as low as 99 deg., while younger animals, receiving the same food, kept under the same conditions, and quite healthy, may register 101 deg. or 102 deg. Climate also affects animal temperature, and here it is usually found that a temperature in cattle, which would indicate fever in a cold country, does not mean so here.

HOW TO USE THE THERMOMETER.

The place at which the temperature is taken in the human subject is the mouth, or occasionally the axillary space (armpit), but the former is obviously not altogether a safe place for a delicate instrument, the bulb of which containing the mercury is particularly fragile, when the patient is a horse suffering from severe abdominal pain, or an irresponsible pig suspected of swine-fever. Therefore, the outlets of the body, preferably the rectum, are usually selected as the point at which to take the temperature, and they furnish the information without the possibility of error.

When about to use the thermometer, it should be shaken, with two or three sharp jerks, to move the registering index below the normal temperature of the animal to be examined. The length of time it requires to be in position varies with the quality or sensitiveness of the instrument. We generally use one called the "Lightening" thermometer, and for this, or any good instrument, one minute is sufficient, and on its removal from the rectum the result may be read by noting where the index points on the scale cut on the glass tube.

When purchasing a clinical thermometer it is very necessary to obtain a good one, for an inaccurate instrument is worse than useless, because misleading.

GUINEA CORN.

We have been able to supply small quantities of four varieties of guinea corn to forty different parties, besides sending out packets to school gardens for experiment, and giving a good deal away to small settlers in St. Elizabeth; and as planting weather has been favourable, there should be enough raised next year to plant out fields on an appreciable scale. One variety is away ahead of others for prolific bearing of seed; it does not grow tall, forms a compact

head, and, as the birds preferred the taller, open-headed kinds, which have more abundant flags, the former seems the kind to raise chiefly for the sake of the grain, and the latter for stock forage.

The Island Chemist, in his analysis (Bulletin, Department of Agriculture, 1905, page 214), places the protein value of guinea corn at 11.96. This would make it a most valuable food, slightly richer in food value than corn, for humans than it is generally accredited, and would solve our chicken food problem. However, guinea corn is not generally accepted as being so high in protein, and fresh analyses are being made of the different kinds, and we shall see how these result.

The amount of dry weather these guinea corns will stand is most remarkable. The best varieties for forage grow to a great height. We saw some, at least, 18 feet, and we should suppose 20 feet would not be out of the question. The stems are tough too, and bend in the breeze, but do not readily break.

COMMENTS.

MEETINGS.—The next meeting of the Board of Management will be held on Thursday, the 12th December, at 11.45 a.m., and the half-yearly general meeting at 12.30 p.m., immediately after the Board meeting. These meetings have been postponed from November.

* * *

TOURIST TRADE.—It is estimated that tourists spend £100,000 annually in Bermuda. Here, where there is more scope, we ought to annex far more than that sum, if we were practical, and didn't depend so much on the other person doing his best for us.

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SHOWS.—The following shows are arranged to be held:—Trinityville, on the 26th December (unfortunately misprinted in last JOURNAL 26th January). Appleton Branch, at Siloah, on 1st January, 1908. Hampstead Branch, on Easter Monday. Kendal Show Committee, seeing the Conference will not be held in Jamaica, will not hold their show in January, but may arrange for a date in March. His Excellency the Governor has arranged to open the Appleton show.

* * *

COLOURING GRAPE FRUIT.—It may interest you to hear that an experiment I have carried through this season, in curing and colouring grapefruit, has turned out successfully, judging from reports (and returns) from the receivers in the U. S. (experienced men). The fruit, two hundred to four hundred at a time, is put in deep boxes, and stacked in a room made as tight and dark as possible. Charcoal fires, over which water in kettles is boiled, are kept burning continually for, at least, four days and nights. The fruit thus treated has arrived at its destination without any further shrinkage,

and uniformly tight in the packages, and with a better colour compared with fruit untreated, and has sold for better prices.—H. C. BENNETT.

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SOILS.—In Mr. Herbert Wright's book on Para Rubber, he says:—"No one, who has worked with the Ceylon soils, will dispute the fact that exposure of the soil to the sun and rain, for a period of several years, results in a great loss. The soluble constituents are carried away in the drainage water, the organic matter is reduced in quantity, the ground becomes hard and caked, and the destruction of useful bacteria assured." This is a true argument in favour of covering the ground cleared, and cultivated as quickly as possible with a green crop like peas or beans, or a mulch. We believe in catch crops of peas and beans between all crops planted. We have never known them do any harm, unless planted too near to the main crop, but we have observed great benefits resulting.

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CARAVONICA COTTON.—There are two kinds of this cotton, Caravonica silk and Caravonica wool, both bred off the common wild kidney or chain cotton crossed with Sea Island. But, like all cross-breds, the type of the progeny is not always uniform. Here the Caravonica silk has proved a stronger bearer than the other, and the cotton is better, so that we have not sent out any seed of the wool type this year, while we have carefully eliminated all the bolls of the silk variety that come with the seed clustered like kidney cotton, leaving only those bolls most of Sea Island type. As a good deal of this is being grown for experiment, we ask all those interested that, when their trees bear, they should take care not to use the seed that comes of the kidney or chain type. This is very important, as the latter cannot be ginned effectively with the other. And, it must be remembered, not to use the seed of Sea Island cotton grown near Caravonica, and never to mix the lint of these cottons together. We have had samples sent us to be ginned, and sent away away to be valued, which we have found to be mixed cottons, and of little value therefore.

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COTTON.—In a despatch from Sir Daniel Morris to the Colonial Office on the subject of the West Indian Cotton Industry, he remarks: "After carefully studying the circumstances connected with the cultivation of Sea Island cotton in the Sea Islands, I arrived at the conclusion that the West Indies should confine their attention entirely to Sea Island cotton. This was originally a native of these Islands, but the quality of the staple had been greatly improved by cultivation over a long period in the United States."

Enough seed, to plant 7,000 acres, was bought from one of the best estates and sent to the West Indies, which enabled the industry to be started. In the following year the planters in the Sea Islands refused to supply further seed to the West Indies, but, fortunately, the seed already got enabled the industry to be continued.

It happens now that West Indian seed is being used for planting in Florida, an acknowledgment of its value.

Undoubtedly, Sea Island cotton is the variety we should grow in Jamaica, and, in spite of apparent failure so far, on a large scale, we do not think we can say the growing of it, generally, has yet had anything like a systematic business-like trial. The other West Indies have had the direct and full effort of the Imperial Department turned on to the industry, while we have not concentrated effort in any way. We have so many industries, comparatively, such a small staff to switch on to anything, while calls for special services in other lines are so numerous, that our efforts in cotton have been comparatively limited, disjointed, and casual.. This kind of effort, however, will not start an important industry—most important, because it could utilise land not productive at present, and could provide another large export trade to help balance our dependence on bananas—our complete dependence as things stand. And so the years go by.

BRANCH NOTES.

St. John's.—The regular monthly meeting of this Branch was held at Kitson Town on the 19th October. Present: Messrs. R. B. Farquharson (Vice-President), chairman; S. A. Banton (Secretary), F. A. Vernal, E. J. Hendricks, G. A. Bell. J. H. Gonzales, T. G. Richards. Rev. W. Burke, and Mr. Shakespeare, of Garden Hill, a visitor. After the minutes were read and confirmed, the Secretary read (1) a letter from the Parochial Board of St. Catherine acknowledging the receipt of the resolution sent up at the last meeting. The members were glad that the resolution was favourably received, and that attention was being given to the catchwater of the tank. (2) One from J. Barclay, Esq., acknowledging receipt of the minutes of the previous meeting, and giving advice in regard to the cultivation of Caravonica cotton. (3) Quotations from the British Tropical Produce Company, 42 Old Bond Street, London. The members thought the prices good. Castor oil beans was put down at £9 to £12 per ton. A lengthy discussion took place on the suitableness of this soil for the castor oil. It was finally decided that each member that could procure seeds should experiment on a small scale. On the motion of Mr. Vernal, seconded by Mr. Hendricks, the members proceeded to elect a President and Senior Vice-President, when Mr. Farquharson and Rev. W. Burke were unanimously elected. Mr. Hendricks was also elected Junior Vice-President. Each of the newly elected officers returned thanks to Mr. Banton, who had presided *pro tem.*, and promised to do their best.

NOTE.—The annual general meeting will be held on the 2nd November. We are having seasonable showers. The drought is a thing of the past, but its effects are keenly felt, and will be felt for, at least, twelve months more. This Society has made a fresh start.—S. A. BANTON, Hon. Secretary.

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St. John's.—To-morrow (September 7) will make it two weeks since we are having almost daily rains. The first day we had the rain from 12 o'clock to 3 p.m. All the plants and fruit trees that were dying have revived, and the whole place puts on a green coat. I am, however, sorry to say that many of the fruit trees have died during the recent drought. Besides orange and coffee trees, coconut and pears were also dying. The people, who were somewhat disheartened, are now cheered by the refresh-

ing showers, and all the cultivators are busily engaged in planting. There is one regretable thing, however: many did not clear up their lands in readiness. A great scarcity of food prevails. The remainder of the year will be far worse than the present. This is a district where people sell all kinds of fruits generally, but this year there is little or no fruit. Most of the pears have blown off, or the trees did not bear at all. The coffee berries are not much good; they are burnt by excessive heat. Oranges got withered, and the majority dropped off the trees. In short the crops this year will be far below the average. (Of course, I am here over four years now.) The cry, "Hard times and no money," is heard all around. Many *people declare that the time was never so bad, neither had the outlook* been so gloomy.—S. A. BANTON, Hon. Secretary.

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St. George's.—The monthly meeting of the St. George's Branch was held in the Court House, Buff Bay, on the 12th of October. The following members were present:—Messrs. John W. Hill (President), T. C. Geddes (Vice-President), C. A. Miller (Vice-President), Rev. W. J. Thompson, Messrs. J. O. Mason, W. G. Russell, A. E. A. DaCosta, W. Jackson, W. Cradwick (Travelling Instructor), and many others. The minutes of the last meeting were read and confirmed. The President moved that the Bye-Laws of the Committee of Management should be amended as follows:—"23. The Committee of Management shall appoint Honorary Local Secretaries in the different districts under the scope of the Society, whose duties shall be to foster the interests of the Society in their districts, such Secretaries to have a seat on the Committee, and to enjoy all privileges of the ordinary Committee of Management." The jippi-jappa plants arrived and were distributed. Mr. Cradwick brought samples of the straw, and demonstrated how it was prepared and used for making hats. Two new members were elected. A memorial to the Governor, and the Governor's reply, *re* the Agricultural Conference being held at Port Antonio was read and attached to the minutes.

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Central Cornwall.—A very profitable meeting of this Branch came off on Friday, the 20th September, at Montpelier school-room. There were present: Rev. W. Heaver, H. D. Mennell, Esq. (Agricultural Instructor), Messrs. J. Henderson, J. H. Oliphant, J. A. Neilson, Geo. White, H. A. Stephenson, L. K. McKinley, R. Kentish, J. Little, A. McKenzie, Alexander Owen, Geo. A. Irving, and E. S. Jarrett (Secretary). The meeting was opened with prayer by the President elect, at the request of Mr. J. H. Oliphant (Vice-President). The Vice-President, in addressing the meeting said: "Gentlemen, we are pleased to meet here to-day, and we look forward to a good attendance at this important meeting. Although now we are not many, I hope many more will drop in as the meeting progresses. For some months past, the meetings held were thinly attended, and we had not the presence of our Instructor, nor a President to control us, though we were not uncontrollable. I say this to our credit. "To-day, however, we have our Instructor, and the President elect with us, so I hope we shall have a profitable meeting. The Central Cornwall Branch was a strong one numerically, and covered a wide area of this parish, but I cannot state with any certainty whether its strength in numbers is still kept up, but I hope so, for the Agricultural Society and its Branches are doing great good in, and for, the island. We wish them a steady and permanent success, both in numbers and results." After the reading and discussion of the minutes of the previous meeting, the Vice-President went on to say: "The next item on the agenda is the election of a President. At the meeting of this Branch, held at Mount Reece, on Friday, the 16th August last, the Secretary was requested to write to the Rev. W. Heaver, clergyman at Montpelier, and ask him if he would kindly consent to accept the responsible and important office of President of this Branch

of the Agricultural Society, made vacant in May last by the removal of the Rev. J. Duff from this part of the island. The Secretary has performed his duty with commendable diligence, and has received a favourable and decisive reply, and the reverend gentleman is with us to-day. Before putting this proposition to the vote, I must remark that our former President, Rev. J. Duff, and our Travelling Instructor, W. Cradwick, Esq., served with diligence and ability. They worked on harmoniously, and had a lively interest in the Society's growth, consolidation, and expansion, and we hope their mantles, in those particulars, may fall upon the officers who take the work from which they have been called." After these remarks, remembering the jolly times we spent with them, the meeting sang "And they were jolly, good fellows." Amidst much acclamation, the President was unanimously voted to the chair. The reverend gentleman, in accepting the chair, responded in very pleasing terms. He said he was conscious of the very important fact that he was succeeding a very ideal gentleman in the person of the Rev. Duff, Ex-president of this Branch, who laboured with much persistency to set it on its present basis. He said that he was no novice to the work, as he served in the same capacity over a very progressive Branch—the St. Peter's, and he shall endeavour to do everything possible, if not to make this Branch better, to keep it as it hitherto had been. With the co-operation of the members, much can be done in the way of helping to spread some right principles in agriculture, and the spirit of enthusiasm can be infused into those members, who, so to speak, suffer from laxity. He encouraged the continual planting of crops throughout the year, that is, not to plant for one season and sit waiting for that harvest, but plant in such a way that harvest can be expected every month of the year, and, where possible, of the same kind of crop. This done judiciously and regularly, we can insure ourselves against the scarcity which most people have to encounter with yearly. Two very instructive lectures were given on (1) "The Proper Treatment of Different Soils for the Raising of Bananas," and (2) "Tillage," by the Instructor and the Secretary, respectively. The next meeting of the Branch will be held at Cambridge school-room, on Friday, the 25th October next, beginning at 10 o'clock.

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Cambridge.—A meeting of this Branch was held on the 10th October in the school-room, Woodford, for the purpose of meeting with J. Briscoe, Esq., Travelling Instructor of Agriculture. The attendance was rather disappointing, but this may be accountable for, as there was a heavy shower of rain about an hour before the time arranged for the meeting. Mr. Briscoe, during his address, read an extract from the *Telegraph*, in which it was stated that Blue Mountain coffee got the splendid price of 149/ per cwt. in the English market. He then urged on the meeting the advisableness of giving their coffee the best cultivation possible, also of bestowing labour on the curing of the beans, so as to produce good quality. It may not be out of place to mention that these mountains, being spurs of the Blue Mountains, have been, and are still, known for the excellent quality of the coffee they produce. On the suggestion of Mr. Nelson, one of the Vice-Presidents, it was agreed that Mr. Briscoe, be asked to secure a pair, or some eggs, of Plymouth Rocks, in order to improve the fowls of the district. As far as this year is concerned, it is believed that the drought is a thing of the past. It was rather praiseworthy to see how most of the people faced the difficulties of the drought, for, although they suffered repeated failures, yet, again and again, they made fresh attempts at planting and sowing, and, in this way were able, all during the time, to place some vegetables on the Kingston market. We are now waiting for the heavy rains to be over, when advantage will be taken of the genial November showers to begin planting and sowing in right earnest. Orders for seven barrels of seed potatoes were sent to Mr. Barclay, through Mr. Briscoe. Since taking up his appointment, Mr. Briscoe has paid many visits here, and appears to be very zealous.

In his addresses he seeks to instil in his hearers a spirit of perseverance, and true independence.—R. A. CLARE, Secretary.

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Ocho Rios.—During the first week of this month (October), the Local Instructor, Mr. Arnett, paid his quarterly visit to the district, and several instructive demonstrations were given among the small settlers. The visit has been of more than usual interest, as both Mr. Barclay and Mr. Cradwick have been this side. On Friday, October 4, a lecture at the Court House was given by Mr. Cradwick, the subject being "Suitable Fodders for Dry Districts, Having Special Regards to Small Settlers with a Limited Amount of Land." As usual, Mr. Cradwick handled his subject with ability, and the forty to fifty members and their friends were much interested in the lecturer's remarks. Mr. Barclay also addressed the meeting. Altogether, a very pleasant and instructive time was spent, and a very hearty vote of thanks was passed to Messrs. Barclay and Cradwick.—L. C. B. YEOMAN, Hon. Secretary.

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Rio Minho.—The regular meeting of the Rio Minho Branch came off Wednesday, October 16, in the Park Hall school-room, at 6.30 p.m., Mr. J. Hirst presiding. The minutes were read and confirmed, and from business arising out of them, Mr. Hirst reported that he had secured a pure-bred buff Orpington rooster, aged five months, for the Society. The bird would be kept until about January, when he will be placed at the disposal of the members. The meeting went into committee on show matters, and a very large and influential committee of gentlemen interested in agriculture, and the material welfare of the parish, was elected, the first meeting to come off at the Starlight Store, Crooked River, November 21, at 4 p.m. A small committee, consisting of Messrs. J. Hirst, Sam. May, D. N. Ricketts, Chas. Davis, and the Secretary, was elected to prepare a draft estimate, and a prize list, to submit to the meeting of November 21. The committee to meet October 17. A discussion, in which Messrs. S. May, Ed. Robinson, John Hirst, and the Secretary joined, took place as to the advisability of introducing the jippi-jappa industry into the district. The meeting was in favour of starting the industry, and it was agreed that all information be got from Mr. John Barclay and Mr. W. Cradwick, to be laid before the next meeting, which comes off December 18, at 6 p.m. We have begun preparations for our Easter show with the determination to make it a better show, and the signs of interest already manifested are encouraging. —U. THEO. McKAY, Secretary.

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Moore Town.—On the 14th September, the regular monthly meeting of the Society came on. Several members were present, Mr. J. E. Bailey, Vice-President, in the chair. The jippi-jappa hat business was again talked over, the Secretary informing the members of his meeting with Mr. Cradwick on the 3rd October, and of what was decided on. A lengthy discussion then took place with reference to the action of the Fruit Companies operating here in the cutting down of the price of bananas to 10½d. per bunch, while the price was high in the American market. The week before they had been rushing the price up in St. Mary to 4s. and 5s. per per bunch. The decision arrived at was that all hands should cease cutting for the next week, which was accordingly done. The body of the people, unfortunately however, did not hold out for more than one week, during which time the companies dropped the price to 9d. per bunch here. There is a fairly good quantity of bananas in this district now, and a big rush on the part of the companies to get the fruit. The price is 10½d. per bunch this week, and it is expected that it will soon reach 1s. There are four companies now buying. The October rains have now set in, and we having fine showers since the night of the 13th. On the 16th, it poured the whole day; the rivers were all in flood. To-day (October 17) it is still falling, but at intervals.—H. W. HAY, Secretary.